TITLE 327 WATER POLLUTION CONTROL BOARD

#99-263(WPCB)

SUMMARY/RESPONSE TO COMMENTS FROM THE THIRD COMMENT PERIOD

The Indiana Department of Environmental Management (IDEM) requested public comment from January 1, 2000, through March 21, 2000, on IDEM=s draft rule language. IDEM received comments from the following parties:

BP Amoco (BPA)

Fleming, Anthony H. and Ferguson, Victoria R.,
Indiana Certified Professional Geologists
(Flem-Ferg)

Hoosier Environmental Council (HEC)

Indiana Coal Council (ICC)

Indiana Electric Utility Solid Waste Work Group
(IEU)

Indiana Farm Bureau, Inc. (IFB)

Indiana Plant Food and Agricultural Chemicals
Association, Inc. (IPFACA)

Indiana State Chemist and Seed Commissioner
(ISCSC)

Indiana Steel Environmental Group (ISEG)

Indianapolis, City of (INDI)

Ladd, Brent (Ladd)

Lehigh Portland Cement Company (LPCC)

Marion County Soil and Water Conservation District
(MCSWCD)

Robert L. Moran (RLM)

NiSource (NiS)

Save the Dunes Council (SDC)

Shere, Mark E., Attorney, for Bethlehem Steel Corp. (Beth)

Southern Indiana Gas and Electric Company (SIGECO)

Sweeney, Jim (Sweeney)

Ulmer, John (Ulmer)

U.S. Environmental Protection Agency, Region 5, Safe Drinking Water Branch (EPA)

Following is a summary of the comments received and IDEM's responses thereto:

Comment: The proposed rule published in the Indiana Register January 1, 2000, requested comments until January 21, 2000. The twenty-one (21) day comment period is too short a time to prepare constructive comments, gather input from association members, and hold discussions with other agricultural groups or regulating agencies to determine how the proposed standards might be interprete or applied. A sixty (60) day extension of the comment period is requested. (IFB)

Response: Indiana statute requires a twenty-one (21) day third comment period to be afforded to the public for submitting written responses to a proposed rule. The proposed ground water quality standard rule was developed through extensive external work group meetings with the participants kept well informed of all rule language. Preliminary adoption of the proposed rule occurred on October 13, 1999, and the rule did not change prior to publication of the third comment period . However, at the request o the public, the comment period was extended an additional sixty (60) days from January 21, 2000 until March 21, 2000.

Comment: It seems only those with a law degree will be able to interpret this ground water rule. Why can=t it be written in straight forward english? (Ladd)

Response: The proposed rule concerns a technical subject matter that affects many entities and people i an unassessable variety of circumstances that accounts for the complexity. Rules must necessarily be technical and specific to avoid inaccurate application of requirements. IDEM has revised the proposed rule language to add more specificity.

Comment: The proposed rule violates a number of basic requirements of Indiana law wherein it is specified that enabling legislation must be read as a whole giving words their common and ordinary meaning and not emphasizing a selective reading of individual words. As well, every word of a statute must be given effect and meaning with no part of the statute held meaningless if it can be reconciled with the rest of the statute. The ground water quality standards rule fails to meet these requirements placed on Indiana law in the following ways: (1) The proposed rule fails to establish a ban against the

discharge of effluents into potable ground water as directed by IC 13-18-17-5. The Indiana legislature did not equivocate on the language of the statute; it expressly states that the ground water standards sha be used to ban the discharge of effluents into potable ground water. The proposed rule not only does no establish the required ban, but, in places, the rule explicitly permits discharges into potable ground wate which as a matter of law must be seen as invalid. (2) The plain meaning of the statute requiring the ground water quality standards rule to create health protection goals is not fulfilled though the proposed rule does state in section 6 that the numeric criteria Aare health protective goals for untreated ground water used as drinking water@. The numeric criteria of section 6 of the proposed rule are based on maximum contaminant levels that are not strictly based on health protective goals in that they also consider cost. In the very least, a rule that creates standards for health protection goals for untreated water in water supply wells must base the standards on maximum contaminant level goals which are strictly health based goals. (3) The proposed rule also violates the statute by establishing criteria for various classifications of ground water. The statute requires health protection goals for all water in wate supply wells regardless of the location of the well. The language of the statute does not differentiate a water supply well located in a naturally limited or impaired drinking water classification of ground water from a well in an area of drinking water class ground water. If a drinking water well supplies water to users, which does fit the definition at 327 IAC 2-11-3(5)(A) of a Adrinking water well@, then the statute requires that well must have a health protection goal applied to it no matter the class of ground water at its location. (4) General principles of Indiana law require that a regulation of an administrative body must not be arbitrary; however, the proposed rule does not prevent ground water contamination. Further, administrative decisions must be based upon ascertainable standards to ensure that agency action will be orderly and consistent. The proposed rule is constructed so that five (5) agencies will implement the ground water quality standards making it even more important to

have clear and ascertainable standards, but the alternative risk based standards to be set fail to give sufficient precision to the ground water standards. (HEC, SDC)

Response: Section 5. (a) of the authorizing statute for the ground water quality standards, IC 13-18-17-5, requires the standards to Ainclude numeric and narrative criteria, a groundwater classification plan, and a method of determining where the groundwater quality standards must apply@. The proposed rule includes all the elements defined by the statute. IDEM believes the appropriate application of the standards requires the application of all these elements, as these elements work together to protect Indiana=s ground water resource. Among the narrative criteria in section 5 of the proposed rule is the requirement that AGround water shall be maintained and protected to ensure that a contaminant concentration attributable to human activity does not increase in a drinking water well@. This is a qualitative, health protective goal that applies to all classes of ground water. To effectively meet this goal, IDEM believes that when an agency listed in the statute adopts rules to apply the standards, it will establish implementation procedures to ensure protection of ground water resources. To be consistent with the statute, these procedures must effectively ban the discharge of effluents to potable water supplies. The numeric criteria of section 6 of the proposed rule are based on USEPA=s maximum contaminant levels (MCLs) that are health protective and do consider cost. IDEM does not believe using the MCLs creates any conflict with the statute because IC 13-18-17-5 does not prohibit the use of health protective goals that consider cost. Additionally, IDEM believes it is important to remember that this proposed rule does not stand alone as the only law that protects Indiana=s water resources including ground water. For example, pursuant to IC 13-18-4-5, it is unlawful for any person to throw, run, drain, or otherwise dispose into any of the streams or waters of Indiana; or cause, permit, or suffer to be thrown, run, drained, allowed to seep, or otherwise disposed into any waters; any organic

or inorganic matter that causes or contributes to a polluted condition of any waters.

Comment: As the largest general farm organization in Indiana and a participant in the ground water quality standards rule workgroup and task force, there is concern about the potential impact the proposed rule will have on the industry of agriculture in Indiana. It is believed to be best that when the state legislature passes a statute it should be general in nature with the proper function of rules developed by executive agencies to clarify to the regulated community and the public where and how the legislative intent will be implemented and enforced. The proposed ground water quality standards fail to provide clarity and specificity to the public and the regulated community as to when, where, and how the standards will be applied. (IFB)

Response: Section 5. (a) of the authorizing statute for the ground water quality standards, IC 13-18-17-5, requires the standards to "include numeric and narrative criteria, a groundwater classification plan, and a method of determining where the groundwater quality standards must apply". The proposed rule includes all the elements defined by the statute and establishes where the narrative and numeric criteria of the proposed rule must be met. The statute says that five (5) agencies shall adop rules to apply these standards to the activities they regulate. IDEM believes that when an agency listed in the statute adopts rules to apply the standards, it will establish implementation procedures to ensure protection of ground water resources including when, where, and how the standards apply to the regulated activities.

Comment: The following strengths of the proposed rule should be retained as the rule goes to final adoption: (1) avoiding any expansion or limitation on IDEM's existing authority; (2) careful balancing of the goal of antidegradation with the statutory requirement to adopt risk based standards; (3) providin all facilities with a ground water management zone that can be used to adjust the application of the standards based on characteristics of a specific site; (4) using flexible indicator parameters for particula constituents; (5) providing flexibility to IDEM's program offices but without requiring the use of regulatory tools such as preventative action levels, design standards, and management standards when consistent with current authority; and (6) authorizing IDEM to classify ground water as impaired based on the factors provided in the proposed rule. (Beth, ICC)

Response: In order to address the complexity of the IC 13-18-17-5, the authorizing statute for the ground water quality standards requiring the five (5) agencies to adopt rules to apply these standards to the activities they regulate, IDEM believes the standards need to include concepts that allow flexibility in application. These concepts include the following: (1) classification plan; (2) the ground water management zone; and (3) risk analysis, when appropriate, and are included in the proposed rule language. IC 13-18-17-5 (a) defines the standards to "include numeric and narrative criteria, a ground water classification plan, and a method of determining where the groundwater quality standards must apply". The proposed rule includes all the elements defined by the statute and establishes where the narrative and numeric criteria of the proposed rule must be met. The statute says that five (5) agencies shall adopt rules to apply these standards to the activities they regulate. IDEM believes that each of the five (5) agencies listed in the proposed rule, as they adopt rules to apply the standards, will establish when, where, and how the standards apply to the activities they regulate. However, neither IDEM nor the Water Pollution Control Board has the authority to control another agency's interpretation or implementation of IC-13-18-17-5.

Comment: The principle concern with the proposed ground water rule is that, despite the admirable goa of maintenance and protection of ground water quality stated in section 1 of the rule, the overall approach of the remainder of the rule is to be reactive once ground water has become contaminated. The proposed rule assumes that ground water at a given location will become contaminated then allows for the creation of a set of artificial and ambiguous ground water classifications that essentially allow further degradation of the resource to occur. The stated goal of the rule needs to be followed upon with requirements of actual preventative steps to protect ground water before it becomes contaminated. (Flem-Ferg, Ladd, HEC, RLM, SDC, Sweeney)

Response: The standards include a classification plan, narrative and numeric criteria, and a method for determining where the criteria apply and were developed to provide a consistent measure of quality. This measure is to be applied by agencies when they adopt rules for programs that, through permits or remediation requirements, effect ground water quality. These programs may, as stated in 327 IAC 2-11-2(c) of the proposed rule, apply additional strategies to further ensure contamination is prevented.

Comment: It is much more time consuming, costly, and inefficient to try to clean up water after it reaches the limit of pollution than it would be to prevent contamination in the first place. (Ladd)

Response: IDEM agrees and believes that the consistent measure of quality the standards establish will promote prevention strategies as agencies adopt rules and develop policies that require compliance with the standards established in this proposed rule.

Comment: About sixty-eight percent (68%) of Hoosiers derive their drinking water from ground water, and this resource must be protected to assure its availability in the future. It is short sighted to only consider current and reasonably foreseeable uses. In the 1950s, the tremendous growth that has taken place in Indianapolis and the surrounding counties was not predicted. To limit ground water protection just to current uses and reasonably foreseeable uses does not ensure that this resource will be available to supply new, often unexpected, growth in the future. It has been a long time in developing the proposed rule, but it should not be rushed toward adoption just because the end of the process is near. The rule in its current form will encourage further degradation of a natural resource that cannot be replaced and will be next to impossible to restore once it has been destroyed. (RLM, Sweeney)

Response: IDEM understands the importance of the drinking water resource and, therefore, has established the default classification as drinking water class ground water with numeric criteria based o EPA=s maximum contaminant levels (MCLs). The MCLs are the criteria that public water supply systems are required to meet in the drinking water they supply to their customers. Additionally, the proposed rule includes narrative criteria in 327 IAC 2-11-5(2) requiring thaAGround water shall be maintained and protected to ensure that a contaminant concentration attributable to human activity does not increase in a drinking water well@. IDEM believes that meeting these criteria in drinking water class ground water and drinking water wells ensures a safe and useable drinking water resource for use now and in the future.

Comment: The Environmental Performance Partnership Agreement signed in October 1997 between the EPA and IDEM contains environmental objectives for ground water protection. The proposed ground water quality standards rule does not appear to be able to achieve the following goals required by the partnership agreement: (1) ground water in seventy-five percent (75%) of the hydrogeologic

settings identified as being vulnerable to pesticides or determined to be susceptible to contamination are to be protected for beneficial uses by 2005; (2) all facilities in known vulnerable hydrogeologic settings are to implement appropriate plans to protect ground water by 2003; (3) ninety percent (90%) of subsurface dischargers regulated by IDEM are to be in compliance with discharge permits by 2003; and (4) all pesticides covered by the state's pesticide management plan developed by the OISC are to be applied in compliance with the pesticide management plan by 2003. (SDC)

Response: IDEM is not relying on the ground water quality standards alone to meet the goals and objectives of our partnership agreement. IDEM supports a statewide pesticide monitoring program that is collecting data to determine how vulnerable hydrologic settings are to pesticides. IDEM is implementing a source water assessment program to determine how susceptible drinking water sources are to contamination. As these determinations are finalized, IDEM will use the information they provide along with the standards to ensure the protection of ground water through the application of rules and policy for the programs IDEM administers.

Comment: It is the understanding taken from the rule development workgroup meetings that the standards contained in the proposed ground water rule are to apply to activities regulated by the five (5) agencies listed in section 2 of the proposed rule upon subsequent rulemaking by these regulatory programs that will incorporate and provide implementation mechanisms for the ground water standards found in 327 IAC 2-11. It is recommended that the external workgroup process that was utilized in developing the ground water quality standards rule also be used in the subsequent rulemakings undertaken by the five (5) regulatory agencies to which 327 IAC 2-11 is applicable. (BPA)

Response: IDEM will comply with the rulemaking process of IC 13-14-9 when developing any rules necessary for the application of the standards by IDEM programs. IDEM plans to work with the Governor's Ground Water Task Force on the implementation of this rule. IDEM will use workgroups as appropriate. However, while IDEM can and will recommend that workgroups be used by the other agencies, neither IDEM nor the Water Pollution Control Board can control the rulemakings of other agencies.

Comment: Section 2 of the proposed rule simply echos the statute rather than develops rule language that implements it. The proposed rule, having no preventative action levels, will allow contamination of water supplies until such time that the ground water is unfit to drink. The proposed rule also will allow contamination to occur from activities that are not currently regulated because IDEM's authority and that of the other applicable agencies is limited under the proposed rule to the specific instances where activities are regulated. The proposed rule is written so that remediation shall be consistent with IC 13-25-5-8.5 to enable risk based remediation, but the rule does not establish when it is appropriate for ground water remediations to be risk based. It is recommended that the proposed rule specify that ground water standards must apply to the ground water not just to the activities that pollute it and risk based clean ups are appropriate only when contamination occurred before the Ground Water Protection Act went into effect or no responsible party can be identified. (HEC, SDC)

Response: IC 13-18-17-5, the authorizing statute for the ground water quality standards defines the applicability of the standards by saying that five (5) agencies shall adopt rules to apply the standards to the activities they regulate. In applying the standards, the agencies may determine that preventative action levels, risk based cleanups, or a number of other management tools are appropriate to protect the

ground water resource. However, IDEM believes it is important to remember that this proposed rule does not stand alone as the only law that protects Indiana=s water resources including ground water. For example, pursuant to IC 13-18-4-5, it is unlawful for any person to throw, run, drain, or otherwise dispose into any of the streams or waters of Indiana; or cause, permit, or suffer to be thrown, run, drained, allowed to seep, or otherwise disposed into any waters; any organic or inorganic matter that causes or contributes to a polluted condition of any waters. Additionally, IC 13-30-2-1(1) essentially prohibits any person from causing pollution that would violate any standard, rule, or emission requirement adopted by the board.

Comment: The proposed rule as a regulatory vehicle for the development of implementing regulations by the five (5) agencies listed in the Applicability section does not mandate that future rules by these agencies be interagency consistent. Without this consistency, facilities or sites under the jurisdiction of multiple agencies may be required to satisfy widely varying criteria that may lead to unnecessary regulatory burdens and inefficiencies in addressing future ground water concerns thereby adding costs to comply with multiple standards for ground water protection. It is recommended that in order to minimize this potential, the proposed rule should establish an interagency ground water task force that would review each agency=s implementation of the ground water quality standards to assure a ground water program for Indiana that is both interagency consistent and nonoverlapping. Jurisdictional disputes should be resolved by the task force so that only one (1) agency is responsible for overseeing a particular ground water function. (INDI)

Response: The standards, which include a classification plan, narrative and numeric criteria, and a method for determining where the criteria apply were developed to provide a consistent measure of quality when agencies adopt rules to apply the standards. While specific implementation requirements c other state and Federal laws may not allow complete consistency in the management of ground water quality, IDEM believes that the establishment of standards will be a progressive step towards that goal. The Governor=s Ground Water Task Force, an interagency task force with representation from all the agencies listed in the applicability section of the proposed rule, already exists.

Comment: 327 IAC 2-11-2(a) logically implies that the standards of this rule can only be applied after one (1) of the five (5) agencies that has jurisdiction over a regulated activity adopts rules to implement the standards. However, section 2(b) could be interpreted that portions of the standards are self-implementing when the rule becomes final. IDEM has responded to previous comments by stating that the standards cannot be implemented until an agency with regulatory responsibility over an activity practice, or facility develops implementing rules. To clarify this potential confusion, the proposed rule should be modified with the following language added to 327 IAC 2-11-2(a): AThe standards in this rule are not applicable until rules implementing the standards are finalized by the agency listed below that has jurisdiction over the regulated activity@. (IEU)

Response: As stated in the authorizing statute for the ground water standards and reiterated in the proposed rule, IDEM believes that, generally, the application of the standards necessitates the adoption of rules. However, IC 13-30-2 prohibits the violation of any standard adopted by a board. As standards adopted by the Water Pollution Control Board, these ground water quality standards may in a few cases be applied under the enforcement authority of IC 13-30-2. Therefore, IDEM believes that the inclusion of language that disregards IC 13-30-2 is inconsistent and inappropriate.

Comment: The applicability and implementation issues of the ground water quality standards set forth i section 2 of the proposed rule have potential ambiguities that need to be clarified to ensure consistent application of the rule throughout the state by all the agencies to whom the rule applies and all program with ground water protection responsibilities. Specifically, the proposed rule needs to clarify the following issues: (1) protocol for various determinations leading up to establishment of the ground wat management zone; (2) rule applicability for currently unregulated activities; and (3) definitions of the terms Afacility@, Apractice@, and Aactivity@. (ISEG)

Response: IC 13-18-17-5, the authorizing statute for the ground water standards, limits the applicability of the standards to activities regulated by five (5) agencies. Thus, the proposed rule does not apply to unregulated activities except as aAstandard@ under IC 13-30-2. Additionally, because the authorizing statute says the standards are to be applied and implemented by five (5) agencies, IDEM believes it is necessary for the rule to provide flexibility in its application and implementation and, therefore, believe it is more appropriate that the different agencies use the definitions of Afacility@, Apractice@, and Aactivity@ suitable to their programs. While a protocol for defining a default ground water management zone is established in section 9 of the proposed rule, agencies may choose to establish a protocol for determining a program or site specific zone when they adopt rules to apply the standards.

Comment: An absolute ban on the discharge of effluents into potable ground water as stated in 327 IAC 2-11-2(b)(2) is overly broad and not technically feasible because even lined landfills or surface impoundments have some small amount of water migrating from the unit. It is recommended that this requirement in subdivision (2) be qualified with the addition of the following language Athat would cause an exceedence of criteria outside of a ground water management zone@. To qualify the requirement on the discharge of effluents with this additional language would prohibit discharges that could pose a threat to human health, any natural resource, or the environment but not set a technically unfeasible standard. (NiS)

Response: To ensure consistency with the authorizing statute for the standards, IC 13-18-17-5, IDEM believes that the language of 327 IAC 2-11-2(b) should simply reiterate the language of the statute. Language in other sections of the proposed rule establishes that the criteria be met at and beyond the ground water management zone. As there is flexibility in establishing the ground water management zone, IDEM believes that the standards may be applied such that the purposes outlined in section 2(b) of the proposed rule may be accomplished.

Comment: 327 IAC 2-11-2(e) is unclear; this subsection needs to state that standards developed under IC 13-25-5-8.5 supercede the standards of the ground water quality standards rule for remediations. (NiS)

Response: IDEM disagrees. The objectives developed under IC 13-25-5-8.5 do not supercede the ground water quality standards for remediations. Rather, the ground water quality standards shall be consistent with the remediation objectives of 13-25-5-8.5, as is appropriate and stated in section 2(e) of the proposed rule.

Comment: It is unclear how the proposed rule will help protect ground water since it contains no definition of Aaquifer@ or Asaturated zone@. There are few places where all the voids and pore spaces are filled with water. The zone of saturation should be defined as the zone where water in the pore spaces is

at atmospheric pressure. (HEC, SDC)

Response: The proposed rule is structured to protect ground water by managing existing and potential sources of contamination to ground water associated with activities regulated by the five (5) agencies identified by IC 13-18-17-5, the authorizing statute for the standards. This is accomplished by utilizing ground water management zones. IDEM believes it is appropriate and effective to manage sources to protect ground water. The definition of Aground water@ was discussed in a number of the public workgroup meetings, and the definition that is contained in 327 IAC 2-11-3(7) in the proposed rule was determined to appropriately define the natural resource. IDEM believes this definition strikes an appropriate balance for regulatory purposes in

that it is neither too broad to be meaningless, nor too specific to deny protection of the resource.
Comment: The definition of Acontaminant@ at 327 IAC 2-11-3(3) needs to include microbiological constituents. (Flem-Ferg)

Response: The definition of Acontaminant@ at 327 IAC 2-11-3(3) mirrors the statutory definition of contaminant at IC 13-11-2-42. IDEM believes it is appropriate to use the statutory definition for reasons of consistency. Microbiological constituents are included in the definition when they are determined to be injurious to human health, plant or animal life, or property.

Comment: It is suggested that a definition of Acontaminant source@ be included in the proposed rule. What is the distinction used to differentiate a potential source from an existing source? (BPA)

Response: A potential source is a source that could cause contamination such as an underground storage tank that has not yet caused contamination. An existing source is a source that has caused contamination such as a leaking underground storage tank.

Comment: The primary flaw with the proposed rule is that it will automatically place farmers, even when following best management practices, in violation of ground water quality standards. The proposed rule does not provide adequate mechanisms to address the problems created for common agricultural practices as it does for industries, such as coal and manufacturing, through alternate classifications or ground water management zones. Specifically, farmers purposefully place materials, such as nitrogen, into the anticipated root zone of seasonal crops. These materials are in concentrations sufficient to violate the proposed ground water quality standards. There is no intent to pollute or violate any reasonable standard but rather to promote adequate crop development. The proposed rule has no allowance to protect farming practices from being violations as shown by the following: (1) there is no Indiana regulatory program in existence to establish a ground water management zone for necessary agricultural practices; (2) the Office of the Indiana State Chemist (OISC) regulates pesticides, but the OISC has not developed nor does it anticipate development of ground water management zones that will allow pesticide applicators or farmers to know where and how the ground water standards for pesticides will be applied; and (3) the Indiana Department of Environmental Management (IDEM), with the responsibility for confined feeding and land application of livestock manure, has stated that though there is a zero discharge standard, IDEM will not utilize the concept of a ground water management zone for manure injection below the soil surface despite the preference for application of livestock manure either through injection or incorporation below the soil surface to help to control odors. These stated examples concerning regulatory aspects affecting farmers under the proposed rule combined with

a farmer=s multiple material applications and fluctuating seasonal zones of saturation illuminate the confusion and uncertainty farmers face. It is suggested that the solution for the agricultural community could be found in an adjustment to the definition of Aground water@ as stated in the proposed rule. Fluctuations in the zone of saturation during the growing season may cause a farmer to not know where or when applications of commercial fertilizer, pesticides, or manure are technically in ground water and thus subject to the ground water quality standards. Therefore, the definition of Aground water@ at 327 IAC 2-11-3(7) should exempt agricultural materials necessary in the root zone of either anticipated or growing crops. This exclusion should be only for agronomic material for the purpose of helping a crop reach its maximum agricultural yield; nonagricultural situations should not be able to capitalize on a roo zone exclusion to place nonagronomic materials in soils that do not benefit a crop. The following definition of Aground water@ would solve the dilemma the proposed rule poses for farmers: AAGround water@ means water located below the ground surface in interconnected voids and pore spaces in the zone of saturation but expressly does not include water in the anticipated root zone of an agricultural crop.@ (IFB)

Response: IDEM understands the concern over this issue and, therefore, has added language to 327 IAC 2-11-4(d)(2) that will classify ground water as naturally limited if it is located within the agricultural crop root zone that extends no deeper than ten (10) feet below the land surface. 327 IAC 2-11-7(c) defines the numeric criteria that correspond to this naturally limited ground water as the existing concentration for contaminants attributable to pesticides and crop nutrients.

Comment: The definition of Aground water@ at 327 IAC 2-11-3(7) would pose a hardship to many coal operators who farm in areas around coal mine operations. It is suggested that the definition exclude ground water located ten (10) feet or less below the land surface. An alternative to modifying the definition of Aground water@ could be to include a statement in 327 IAC 2-11-4(c) to say that ground water is naturally limited under this rule if it is within ten (10) feet of the land surface. If this expansion is made to naturally limited ground water, then 327 IAC 2-11-7 concerning criteria for naturally limited class ground water must be amended so that a contaminant attributable to acceptable agricultural practices present within ten (10) feet of the land surface shall meet either the existing concentration if it is greater than the numeric criterion established in 327 IAC 2-11-6(a) or the numeric criterion established in 327 IAC 2-11-6(a) if the existing concentration is not greater than the numeric criterion established in 327 IAC 2-11-6(a). (Beth, ICC, SIGECO)

Response: IDEM understands the concern over this issue and, therefore, has added language to 327 IAC 2-11-4(d)(2) that will classify ground water as naturally limited if it is located within the agricultural crop root zone that extends no deeper than ten (10) feet below the land surface. 327 IAC 2-11-7(c) defines the numeric criteria that correspond to this naturally limited ground water as the existing concentration for contaminants attributable to pesticides and crop nutrients.

Comment: The definition of Aground water@ in the proposed rule could describe ground water as existing within nutrient and crop protection zones that are ruled by the principles of agronomy and plan growth. It is recommended that this fact be considered; otherwise, considerable uncertainty is presented in the proposed rule for crop production agriculture. (IPFACA)

Response: IDEM understands the concern over this issue and, therefore, has added language to 327 IAC 2-11-4(d)(2) that will classify ground water as naturally limited if it is located within the

agricultural crop root zone that extends no deeper than ten (10) feet below the land surface. 327 IAC 2-11-7(c) defines the numeric criteria that correspond to this naturally limited ground water as the existing concentration for contaminants attributable to pesticides and crop nutrients.

Comment: The Office of the Indiana State Chemist (OISC) has the responsibility for the administration and enforcement of the state pesticide laws and, through a cooperative agreement with the U.S. Environmental Protection Agency (EPA), implements and enforces many of the pesticide use provisions covered by the Federal Insecticide Fungicide and Rodenticide Act. OISC has developed a generic pesticide management plan for the protection of Indiana=s ground water from pesticides. This plan has been developed in anticipation of a pending federal rule that will require states to have such a plan for continued use of certain pesticides identified by EPA as problematic with respect to ground water. As one (1) of the five (5) agencies charged under the applicability section of the proposed ground water rule with applying the standards to the activities regulated by the agency, the OISC supports much of the proposed rule as being consistent with the activities carried out by the OISC and the goals of the pesticide management plan for Indiana. However, the definition of Aground water@ at 327 IAC 2-11-3(7) in the proposed ground water rule is different from the definition used in the pesticide management plan where the term has been defined to exclude subsurface waters often occurring in field drainage tiles and other common seasonal subsurface waters beneath agricultural fields. This exclusion was made part of the pesticide management plan because farmers and pesticide applicators purposefully and legally place both pesticides and fertilizers into the anticipated root zone of seasonal crops in sufficient concentrations that would violate the proposed ground water quality standards. Section 9 of the proposed rule does allow for ground water management zones, but it would be impractical for the OISC to establish a ground water management zone for all agricultural crop root zones for the entire state because the zone of saturation changes during the crop growing season and from year to year. Apparently, an earlier draft of the ground water rule excluded pesticides and crop nutrients used for agricultural purposes from the definition of Acontaminants@, but without that exclusion from contaminants, the OISC will have difficulty in applying the ground water quality standards to the activities of the state chemist. (ISCSC)

Response: IDEM understands the concern over this issue and, therefore, has added language to 327 IAC 2-11-4(d)(2) that will classify ground water as naturally limited if it is located within the agricultural crop root zone that extends no deeper than ten (10) feet below the land surface. 327 IAC 2-11-7(c) defines the numeric criteria that correspond to this naturally limited ground water as the existing concentration for contaminants attributable to pesticides and crop nutrients.

Comment: The definition of Aground water@ at 327 IAC 2-11-3(7) in the proposed ground water quality standards is too generalized. This generalized definition may allow a number of agencies to interpret ground water according to specific situations, but a too general standard will fail to offer the guidance intended. If a standard can vary according to an agency=s needs, then real frustrations develop in trying to implement resource conservation in a realistic way. The definition of Aground water@ should not be able to be interpreted to mean that the application of best management practices can result in a violation of ground water quality standards. A definition of Aground water@ that includes a root zone exemption would allow conservation minded individuals to manage their resources properly and not seem to be in violation of ground water quality standards when doing so. If activities are damaging to surface water and therefore potentially damaging to ground water, other standards can cover those actions. (MCSWCD)

Response: IDEM understands the concern over this issue and, therefore, has added language to 327 IAC 2-11-4(d)(2) that will classify ground water as naturally limited if it is located within the agricultural crop root zone that extends no deeper than ten (10) feet below the land surface. 327 IAC 2-11-7(c) defines the numeric criteria that correspond to this naturally limited ground water as the existing concentration for contaminants attributable to pesticides and crop nutrients.

Comment: The definition of Aground water@ at 327 IAC 2-11-3(7) in the proposed rule is unclear and possibly in violation of Article 4, Section 20 of the state constitution where it is stated that acts or resolutions A... shall be plainly worded, avoiding, as far as practicable, the use of technical terms@. The issue of where surface saturation of soil ends and ground water begins needs to be clearly defined in the ground water quality standards rule. (Ulmer)

Response: The definition of Aground water@ was discussed in a number of the public workgroup meetings, and the definition that is contained in 327 IAC 2-11-3(7) in the proposed rule was determined to appropriately define the natural resource. IDEM believes this definition strikes an appropriate balance for regulatory purposes in that it is neither too broad to be meaningless, nor too specific to deny protection of the resource.

Comment: AGround water@, as defined by virtually every hydrogeology and engineering textbook, means Aall water below the surface of the earth@. The Indiana ground water quality standards rule should employ this definition rather than try to describe a zone of saturation that may only present a convenient boundary for purposes of implementing the standards. All water below the land surface is or potentially is a part of the larger ground water system and must pass through the vadose zone to recharge the water table and deeper parts of the flow system. It is in the vadose zone that many and perhaps most contaminants enter the ground water system. The definition of Aground water@ contained in the proposed rule also creates a potentially serious problem in one (1) of the most sensitive hydrogeologic settings in the state, the karst region in southern Indiana, where distinct systems of fissures and caverns may be saturated on an ephemeral basis and can also exist as more or less permanent ground water bearing zones above the true zone of saturation. The top of the saturated zone in karst regions can be exceedingly difficult to define accurately. (Flem-Ferg)

Response: The definition of Aground water@ was discussed in a number of the public workgroup meetings, and the definition that is contained in 327 IAC 2-11-3(7) in the proposed rule was determined to appropriately define the natural resource. IDEM believes this definition strikes an appropriate balance for regulatory purposes in that it is neither too broad to be meaningless, nor too specific to deny protection of the resource.

Comment: The definition of Aground water@ at 327 IAC 2-11-3(7) should be revised to include bedrock, including karst aquifers, and to make clear that the ground water quality standards also apply to these aquifers. (EPA)

Response: The definition of Aground water@ was discussed in a number of the public workgroup meetings, and the definition that is contained in 327 IAC 2-11-3(7) in the proposed rule was determined to appropriately define the natural resource. IDEM believes this definition strikes an appropriate balance for regulatory purposes in that it is neither too broad to be meaningless, nor too specific to deny protection of the resource.

Comment: The Anaturally occurring concentration@ of a constituent, defined at 327 IAC 2-11-3(9), is expected to vary over time and by location. The proposed rule should describe acceptable alternatives for determining the naturally occurring concentration. In addition, constituent concentrations in ground water located upgradient of a facility should be presumed not to be attributable to human activity unless there is evidence that the concentration has been affected by upgradient releases or activities. Any determination as to what constitutes a naturally occurring concentration should be subject to an opportunity for administrative review. (LPCC)

Response: Acceptable alternatives for determining the naturally occurring concentration shall be defined by the regulatory program applying the standards. To be considered a naturally occurring concentration, the constituent must be one that can naturally exist in ground water. Upgradient concentrations of human created or introduced constituents would not be considered naturally occurring.

Comment: The subsections listed in 327 IAC 2-11-4(a)(1) should be (b),(c), or (d), and subsection (e) rather than (d) should be the reference used in 327 IAC 2-11-4(a)(2). (LPCC)

Response: IDEM has made changes consistent with this comment.

Comment: With the possible exception of hydrocarbons listed at 327 IAC 2-11-4(b)(1), the remaining conditions found in 327 IAC 2-11-4(b) and (c) are not truly natural but apparently are to be defined by some kind of human activity that ultimately impairs ground water quality. Would an aquifer with baseline quality acceptable for human consumption be considered naturally limited if a confining unit separating the aquifer from an injection zone leaks? Additionally, the language of 327 IAC 2-11-4(c)(1) appears to preclude any kind of meaningful response to changes in water quality in areas where ground water is over drafted; yet, increases in iron, sulfate, and other parameters are commonly observed over time in these zones as ground water is extracted from an ever deeper cone of depression (Flem-Ferg)

Response: The naturally limited class was developed to recognize that ground water may be limited for drinking water use as a result of natural forces that may or may not be triggered by regulated, permitted human activities. For example, ground water in injection zones may be limited due to depth and high concentrations of dissolved solids. Whether ground water is in an injection zone is to be determined by the regulatory agency permitting a Class I, II, or III injection well. As another example, the recharge of a mined area can create ground water that would not have existed in the area had it not been mined. This new ground water may be limited for a period of time for use as drinking water because of the nature of the geologic material it is in. Thus, IDEM recognizes that mining may impact ground water by disturbing the geologic material where it exists; however, because mined areas tend to naturally restore themselves over time, IDEM believes that the ground water in these areas should be classified as naturally limited.

Comment: The naturally limited class of ground water is much too inclusive. Mined areas tend to restore themselves over time; therefore, the ground water in these areas should not be regarded as naturally limited but should be considered impaired drinking water class ground water. (HEC, SDC)

Response: The impaired drinking water class was developed to recognize that ground water has been impacted by the direct human introduction of chemical constituents into ground water. IDEM recognizes that mining may impact ground water by disturbing the geologic material where it exists;

however, because mining itself does not directly introduce chemical constituents into ground water and mined areas tend to naturally restore themselves over time, IDEM believes that the ground water in these areas should be classified as naturally limited.

Comment: Default naturally limited areas should be established on a county by county basis by a technical advisory group that could be established by an interagency ground water task force that is made up of geologists, hydrogeologists, and water resource professionals. An approach of this type would save a tremendous amount of administrative and private resources and would expedite many of the decisions that would require a ruling under the proposed rule. The option of 327 IAC 2-1-4(d) to request naturally limited classification through written submission would also be utilized under a syster of this type, but the classification decision should not belong to the commissioner but rather to a multi-agency group. (INDI)

Response: IDEM believes it appropriate that default naturally limited areas be identified by the agencies regulating those activities, such as deep well injection, that qualify ground water as naturally limited. IDEM also believes that the commissioner is the appropriate entity to make classification decisions in order to ensure timely and consistent review of classification requests.

Comment: The requested information of 327 IAC 2-11-4(d)(1)(A) simply asks for a description of the ground water in three (3) dimensions, but ground water is dynamic. Any legitimate description of ground water must consider an element of time and must include ground water flow direction and velocity. (Flem-Ferg)

Response: IDEM has agreed to develop guidance that will describe the elements to be included in a submission to classify ground water as naturally limited due to low yield or high total dissolved solids.

Comment: The proposed limitation of 327 IAC 2-11-4(d)(1)(B)(i) to qualify ground water as naturally limited appears to write off a significant number of domestic wells, such as those in parts of southern Indiana, that have aquifers yielding less than two hundred (200) gallons per day without diminishing their utility as a source of domestic water supply. Furthermore, the determination of yield is somewhat subjective and depends on the diameter of the well; yet, there is no mention of this relationship in the proposed rule. A thirty-six (36) inch dug or bored well typically yields many magnitudes more water than a two (2) inch driven well in the same formation. If low yield is retained as a parameter for determining naturally limited class ground water, then the rule must specify how low yield will be determined according to characteristics of minimum bore size, screen depth, and the like. (Flem-Ferg, Ladd, HEC, SDC, Sweeney)

Response: Unless it is classified as naturally limited according to 327 IAC 2-11-4(b), (c), or (d), ground water that is being used as drinking water, even though it may be from a low yield well, cannot be classified as naturally limited according to the restriction found in 327 IAC 2-11-4(e)(1)(C) concerning ground water not currently used nor reasonably expected to be used for drinking water in the future, including the combined use of multiple low yield water bearing zones. Additionally, IDEM has agreed to develop guidance that will describe the elements to be included in a submission to classify ground water as naturally limited due to low yield or high total dissolved solids.

Comment: 327 IAC 2-11-4(d)(1) needs to include an appropriate procedure to determine ground water

yield that assesses aquifer characteristics and economic viability. (Beth, ICC, IEU, SIGECO)

Response: IDEM has agreed to develop guidance that will describe the elements to be included in a submission to classify ground water as naturally limited due to low yield or high total dissolved solids.

Comment: 327 IAC 2-11-4(d)(1)(B)(ii) needs to use a three thousand (3,000) milligrams per liter level of total dissolved solids for description of a naturally limited ground water. (Beth, ICC, IEU, SIGECO)

Response: The limit of ten thousand (10,000) parts per million total dissolved solids is based on the EPA definition of an underground source of drinking water.

Comment: Ground water with more than ten thousand (10,000) parts per million total dissolved solids i appropriately classified as naturally limited class ground water, but it is not appropriate to classify ground water as naturally limited due to its low yielding capabilities or that no one is currently using it for drinking water. To make a classification of naturally limited based on these characteristics is contra to the Ground Water Protection Act mandate that the ground water quality standards rule shall be used to ban the discharge of effluents to potable water. This mandate of the act requires a scientific determination as to whether the ground water is drinkable. (HEC, SDC)

Response: IDEM believes it is appropriate to allow for the classification of ground water as naturally limited when it is known that the ground water drawn from one (1) or more water bearing zones cannot provide two hundred (200) gallons per day which is the amount of average daily water use at a single family home according to EPA guidance.

Comment: Earlier drafts of the ground water rule included criteria to be used to classify ground water as naturally limited in addition to yield and total dissolved solids concentration. It is possible that ground water may not meet drinking water quality due to naturally occurring constituents other than total dissolved solids. It is recommended that language from the earlier drafts be added to the proposed rule as a new item, 327 IAC 2-11-4(d)(1)(B)(iii), to read as follows: "It is impractical to use as drinking water due to the concentration of a naturally occurring constituent". (BPA, NiS)

Response: 327 IAC 2-11-6(c) of the proposed rule allows naturally occurring concentrations of constituents to be used as the numeric criteria for those constituents in drinking water class ground water.

Comment: The condition, listed at 327 IAC 2-11-4(d)(1)(C) that must be met for the commissioner to reclassify ground water as naturally limited should be enhanced with the addition of the following language: "and control measures are in place to prevent the use of the untreated ground water in the future". (EPA)

Response: This provision applies to ground water limited due to a naturally occurring high total dissolved solids concentration or low yield; therefore, the water is unlikely to be used as a source of drinking water, and IDEM believes it would be inappropriate to require a person requesting classification to provide control measures to prevent the use of the untreated ground water in the future.

Comment: As used in 327 IAC 2-11-4(d)(1)(C), what is the determination of "reasonably expected",

who will make such a determination, and what time frame is to be considered in a determination of this nature? The reasonableness of a determination of this kind may be dependent upon circumstances of need such as being a homeowner in an isolated area having one (1) ground water containing formation as the only economical source of water supply. It is likely that the future demand on ground water as a drinking water supply is going to be very different when considered in five (5), twenty (20), and one hundred (100) years from now. (Flem-Ferg)

Response: IDEM believes that the knowledge of the increased demand on Indiana's ground water resource for use as drinking water should be considered in all classification decisions. The commissioner will determine if the information submitted in a classification request is sufficient to establish that the ground water to be classified is not currently used nor reasonably expected to be used for drinking water in the future.

Comment: The condition, listed at 327 IAC 2-11-4(d)(1)(D) that must be met for the commissioner to reclassify ground water as naturally limited should be enhanced with the addition of the following language: "or other high priority ground water, such as a sole source aquifer". (EPA)

Response: The sole source aquifer designation program was designed as a planning tool to allow specia consideration of aquifers that supply over half of the drinking water for a given population. EPA has designated only one (1) Indiana aquifer, the St. Joseph aquifer in Elkhart County, as sole source. While over half of the area population is supplied with drinking water from this aquifer, it is known that the drinking water is drawn from only parts of the aquifer. It is also known that significant parts of the aquifer are already contaminated and are currently unuseable for drinking water purposes. Since the aquifer's designation, Indiana has developed its wellhead protection program that protects the drinking water that supplies community public water systems, including those in Elkhart County. IDEM believes that the stipulation that wellhead protection areas not be classified as any class other than drinking wate class is adequate to protect large public drinking water supplies.

Comment: The public notice requirement for classifying ground water as naturally limited by way of submitting a request for a decision by the commissioner according to 327 IAC 2-11-4(d)(2) is unnecessary and unwise. As well, the parameters of yield and quality that the commissioner is to use in making the decision are incorrect or not sufficiently defined. (Beth, ICC, SIGECO)

Response: IDEM believes that public notice of naturally limited classification to potentially affected parties is appropriate because the classification of ground water as naturally limited can impact those other than the owner of the property overlying the ground water.

Comment: The main reason to support the impaired drinking water class ground water classification is to create an awareness that ground water is vulnerable, but impaired ground water should be viewed as future drinking water and not classified as impaired just because no one is likely to drink it. Additional contamination should not be allowed to occur in areas that are already impaired because contaminant plumes may pass or attenuate naturally or it may become economically feasible to clean them up as demand for clean water increases. Very certainly, the impaired drinking water class ground water should include only ground water that is currently impaired, and any contamination that occurs after the effective date of the ground water quality standards rule must be cleaned up to background levels to keep the focus on prevention. (HEC, SDC)

Response: IDEM does not believe that the classification of ground water as impaired drinking water allows additional contamination of that ground water. Regardless of the class of ground water, it is unlawful pursuant to IC 13-18-4-5 for any person to throw, run, drain, or otherwise dispose into any of the streams or waters of Indiana; or cause, permit, or suffer to be thrown, run, drained, allowed to seep, or otherwise disposed into any waters; any organic or inorganic matter that causes or contributes to a polluted condition of any waters. Except in cases where the commissioner allows an appropriate site specific, risk based numeric criterion, ground water classified as impaired drinking water must, for thos constituents that created the impairment, meet the existing contaminant concentration, and all other constituents must meet the drinking water class criteria. Classification as impaired is limited to ground water that fits the following conditions: (1) has existing contamination resulting from a source that was from a previously unregulated facility, practice, or activity; (2) was discovered after those who caused the contamination abandoned the site and those who caused the contamination cannot be found; or (3) cannot be identified due to the nature of the specific constituent.

Comment: 327 IAC 2-11-4(e) is ambiguous and could allow a large amount of the state's ground water to be classified unnecessarily as impaired. For example, the concentrations of some common contaminants, such as nitrate or agricultural chemicals, fluctuate over time, in some cases seasonally, and, in others, from year to year. The proposed rule seems to suggest that a single measurement of nitrate above the ten (10) parts per million limit could serve as the basis for initiating an impaired classification. However, in fact, nitrate is extremely conservative and may be flushed through the part o the system in question so that the concentration is well below the limit after the initially elevated concentration is detected. As a second example of a situation that could lead to an unnecessary impaired classification, a number of naturally occurring constituents, such as arsenic, fluoride, and barium, commonly occur at concentrations above the limits stated in the tables in section 6(a). The proposed rul appears to allow these constituents to serve as a proxy for reclassification with the attendant possibility of further degradation of the ground water by other man induced constituents. These naturally occurring constituents are also notable for their variation in concentration over time. In conclusion, ground water should only be considered impaired if all of the following conditions exist: (1) the contaminant is anthropogenic; (2) repeated measurements show a consistently elevated concentration; and (3) there is strong evidence that the contaminant source is ongoing. Furthermore, classifying ground water as impaired should trigger immediate remedial action including investigation and elimination of existing contaminant sources. The designation of ground water as impaired should not become a vehicle for additional contaminant loading of the aquifer. (Flem-Ferg, HEC, SDC)

Response: IDEM does not believe that the standards provide an incentive to classify ground water as impaired for naturally occurring or temporal concentrations of contaminants. 327 IAC 2-11-6(c) of the proposed rule allows naturally occurring concentrations of constituents to be used as the numeric criterion for those constituents in drinking water class ground water. Additionally, IDEM has added new language at section 4(d) to the proposed rule that says that ground water is naturally limited if it is located within the agricultural crop root zone which shall extend no deeper than ten (10) feet below the land surface. This additional language addresses increased concentrations resulting from agricultural chemicals. IDEM does not believe that the classification of ground water as impaired drinking water allows additional contamination of that ground water. Regardless of the class of ground water, it is unlawful pursuant to IC 13-18-4-5 for any person to throw, run, drain, or otherwise dispose into any of the streams or waters of Indiana; or cause, permit, or suffer to be thrown, run, drained, allowed to seep, or otherwise disposed into any waters; any organic or inorganic matter that causes or contributes to a

polluted condition of any waters. Except in cases where the commissioner allows an appropriate site specific, risk based numeric criterion, ground water classified as impaired drinking water must meet the existing contaminant concentrations for those constituents that created the impairment, and all other constituents must meet the drinking water class criteria. Classification as impaired is limited to ground water that fits the following conditions: (1) has existing contamination resulting from a source that was from a previously unregulated facility, practice, or activity; (2) was discovered after those who caused the contamination abandoned the site and those who caused the contamination cannot be found; or (3) cannot be identified due to the nature of the specific constituent. Requirements for any clean up of impaired drinking water class ground water will be determined by the appropriate remediation program

Comment: The condition, listed at 327 IAC 2-11-4(e)(1)(C) that must be met for the commissioner to reclassify ground water as impaired should be enhanced with the addition of the following language: "Special consideration will also be given to remediation of impaired ground water in state approved wellhead protection areas and other high priority ground waters such as sole source aquifers." (EPA)

Response: The sole source aquifer designation program was designed as a planning tool to allow specia consideration of aquifers that supply over half the drinking water to a given population. EPA has designated only one (1) Indiana aquifer, the St. Joseph aquifer in Elkhart County, as sole source. While over half of the area population is supplied with drinking water from this aquifer, it is known that the drinking water is drawn from only parts of the aquifer. It is also known that significant parts of the aquifer are already contaminated and are currently unuseable for drinking water purposes. Since the aquifer=s designation, Indiana has developed its wellhead protection program that protects the drinking water that supplies community public water systems, including those in Elkhart County. IDEM believes that the stipulation that wellhead protection areas not be classified as any class other than drinking wate class is adequate to protect large public drinking water supplies.

Comment: 327 IAC 2-11-4(f) states a request to classify ground water as impaired may be denied if the exceedance of the numeric criterion established in section 6(a) of the rule was caused by an unlawful action. The rule should, instead, require the applicant requesting the impaired classification to demonstrate that the contamination did not occur as a result of the applicant=s action whether or not that action was lawful or unlawful. (HEC, RLM, SDC, Sweeney)

Response: IDEM believes that tying the ability to classify ground water as impaired to actions of the applicant requesting the impaired classification is inappropriate as it may establish an incentive for thos who may have contaminated unlawfully to find, and perhaps even coerce, someone else to apply for the classification.

Comment: The notification requirements of 327 IAC 2-11-4(e)(2) are inadequate. Residents and ground water consumers down gradient of an area proposed to be classified as impaired are the people likely to be most affected and should be given proper notification. A rigorous analysis of the probable transport characteristics of the aquifer and contaminants in question should guide the distance down gradient of the impaired ground water area that notification must be given. (Flem-Ferg)

Response: IDEM believes that residents and ground water consumers down gradient of an area proposed to be classified as impaired are captured in the requirement to notify any person reasonably expected to be aggrieved or adversely affected by the classification.

Comment: Section 5 of the proposed rule is divided into sections using numbers rather than letters. (NiS)

Response: 327 IAC 2-11-5 is a section having a single subsection and, as such, need not be designated by A(a)@. It is subsections that are identified by sequential, lower case letters of the alphabet surrounded by parentheses. Further divisions of subsections are named subdivisions and are identified by sequentia counting numbers surrounded by parentheses.

Comment: The criteria for all ground water are nonsensical in that they prohibit an increase in contaminant concentration at a drinking water well but not in the ambient ground water until it reaches drinking water well. (HEC, SDC)

Response: Ground water being used as drinking water will be drawn from a drinking water well. IDEM believes the ambient ground water from which the well is drawing must be protected to prevent contaminant increases at a drinking water well.

Comment: 327 IAC 2-11-5(1) states ground water shall be maintained to protect the existing and reasonably expected future uses of the ground water, but protecting the uses of ground water is not consistent with preventing discharge to potable water as required by the Ground Water Protection Act. The proposed rule theoretically only protects ground water from going beyond the maximum contaminant level, but the need is to have preventative action levels that would require action to preven further contamination whenever it is recognized that contamination is occurring so that ground water is kept from approaching the maximum contaminant levels. (HEC, SDC)

Response: 327 IAC 2-11-5 of the proposed rule establishes narrative criteria. To effectively meet these criteria, IDEM believes that each of the five (5) agencies listed in the statute, as they adopt rules to appl the standards, will establish implementation procedures that ensure protection of ground water resources. The agencies may, as stated in 327 IAC 2-11-2(c) of the proposed rule, apply additional strategies to further ensure that contamination is prevented.

Comment: Similar antidegradation provisions that are included in 327 IAC 2-11-6(f), regarding management so that no further increase occurs in the concentration of a contaminant that exceeds the numeric criteria and the requirement that design standards or management be applied as stringently as i situations where the ground water does not exceed the numeric criteria, should be added to the protective criterion found at 327 IAC 2-11-5(2). (EPA)

Response: Provisions similar to those in 327 IAC 2-11-6(f) for drinking water class ground water are also included in 327 IAC 2-11-7(d)(5) and 327 IAC 2-11-8(4) for naturally limited class ground water and impaired drinking water class ground water, respectively.

Comment: It is recommended that 327 IAC 2-11-5(2) should be rewritten to readAGround water shall be maintained and protected to ensure that a contaminant concentration attributable to human activity does not increase in drinking water class ground water@. The existing language of the proposed rule would only protect ground water that is currently being used. (RLM)

Response: Ground water being used as drinking water will be drawn from a drinking water well. IDEM

believes the ambient ground water from which the well is drawing must be protected to prevent contaminant increases at a drinking water well.

Comment: The qualifying language of "a contaminant concentration attributable to human activity" used in 327 IAC 2-11-5(2) should also be used in 327 IAC 2-11-5(3) to make it clear that this protective criteria applies to human impacts and not to natural concentrations of contaminants. (NiS)

Response: IDEM programs applying the surface water quality standards will determine the appropriate surface water criteria to be met at the ground water-surface water interface.

Comment: 327 IAC 2-11-5(4) should be deleted from the ground water quality standards rule. If the commissioner wishes to have this power to compel compliance with surface water quality standards, then that power should be established in a separate rulemaking. (NiS)

Response: This narrative criterion is included to address the specific situations where ground water is treated as surface water, for example, where discharges are permitted to sinkholes. IDEM believes it is appropriate to include this criterion.

Comment: 327 IAC 2-11-5(4) should be deleted from the rule because it seemingly does not add or take away any existing authority that IDEM currently has for regulating surface water under its jurisdiction. (IEU)

Response: This narrative criterion is included to address the specific situations where ground water is treated as surface water, for example, where discharges are permitted to sinkholes. IDEM believes it is appropriate to include this criterion.

Comment: The ground water quality standards rule should contain preventative action levels to prevent contamination of drinking water class ground water and steps should be taken to prevent any further contamination when it is recognized that concentrations are increasing above background levels or when they have reached one-tenth (0.1) of the maximum contaminant level. (HEC, SDC)

Response: 327 IAC 2-11-5 of the proposed rule establishes narrative criteria. To effectively meet these criteria, IDEM believes that each of the five (5) agencies listed in the statute will establish implementation procedures that ensure protection of ground water resources as they adopt rules to apply the standards. According to 327 IAC 2-11-2(c) of the proposed rule, the agencies may apply additional strategies, including preventative action levels to further ensure contamination is prevented.

Comment: Section 6 of the proposed rule is entirely inadequate in that it does not create standards for the many constituents that have yet to have a maximum contaminant level established. The statute did not instruct IDEM to set health protective goals for only certain chemicals. Rather than structuring the ground water quality standards rule so that the commissioner may perform a risk analysis, the rule should aim to maintain background concentrations by banning all discharges to potable water. If it is considered infeasible to adopt background concentrations as the standard, then IDEM should establish health protection goals for untreated water that are based on the maximum contaminant level goals that are health based criteria and employ preventative action levels. There are also a number of health advisory levels that could be incorporated as health protective goals into the proposed rule. It is

understood that Wisconsin recently enacted a standard of ninety-nine one-hundredths (.99) parts per million for boron based on extensive human health analyses. Toxic levels of boron can readily leach from coal combustion wastes that are widespread in Indiana. A health advisory level for boron and other contaminants should be included in the ground water quality standards rule. (HEC, SDC)

Response: Pursuant to IC 13-18-4-5, it is unlawful for any person to throw, run, drain, or otherwise dispose into any of the streams or waters of Indiana; or cause, permit, or suffer to be thrown, run, drained, allowed to seep, or otherwise disposed into any waters; any organic or inorganic matter that causes or contributes to a polluted condition of any waters, this includes constituents that do not have established maximum contaminant levels (MCLs). However, IDEM recognizes that in some situations, ground water remediations for example, there may be a need to establish a numeric criterion for a constituent without an established MCL. Rather than to try and establish numeric criteria for what could be a long list of constituents, IDEM believes it is appropriate to establish a process for establishing criteria as the need for them is recognized. 327 IAC 2-11-6(d) of the proposed rule establishes this process and has been revised as follows:AIf the commissioner determines that a site specific numeric criterion for a contaminant without a drinking water class numeric criterion established in subsection (a is necessary to protect human health, any natural resource, or the environment, a risk analysis shall be used to establish a numeric criterion for that contaminant and must: (1) receive approval from the commissioner; and (2) be based upon appropriate toxicological data. A drinking water class numeric criterion may be added to the criterion established in subsection (a) if adopted according to IC 13-14-9.@. IDEM believes that the consideration of appropriate toxicological data would include a review of the maximum contaminant level goals and lifetime health advisories established by EPA.

Comment: The strengths of the proposed rule are those that will provide flexibility through the utilization of risk based standards, ground water management zones, ground water classifications, and indicator parameters for certain constituents. However, the proposed rule in Table 6(a)(1) includes a misapplication of EPA=s fifteen (15) parts per billion action level set for lead. The EPA action level is intended as a warning requiring action by a water supplier to identify the source and reduce the frequency that the action level is exceeded if greater than ten percent (10%) of the samples collected over any monitoring period show lead in excess of the action level. The proposed rule has applied a numeric criteria to lead in ground water rather than treating it as an indicator level that applies at the point of ingestion. It is a clear misapplication of the EPA intended action level to convert it from a flexible, ninety percent (90%), action level to a mandatory, one hundred percent (100%) threshold. The concerns regarding children=s lead exposure are understood, but since the EPA action level is not based on scientific evidence of potential health effects, the proposed rule should not include lead as a mandatory numeric criteria. (Beth, ICC, ISEG)

Response: The lead criterion of fifteen one-thousandths (0.015) milligrams per liter was based not only on EPA=s action level but also on risk calculations by IDEM. IDEM understands that some people believe this is a conservative criterion, but IDEM believes it is an appropriate criterion since lead is a serious health threat to children.

Comment: IDEM=s regulation 327 IAC 8-2-16(k) for drinking water in homes and schools properly applies EPA=s flexible, fifteen (15) parts per billion action level while the proposed ground water qualit standards rule does not. It is recommended that lead be removed from Table 6(a)(1) and made part of the list of flexible indicator levels. (Beth, ICC)

Response: The lead criterion of fifteen one-thousandths (0.015) milligrams per liter was based not only on EPA=s action level but also on risk calculations by IDEM. IDEM understands that some people believe this is a conservative criterion, but IDEM believes it is appropriate to retain it as numeric criterion to be met at and beyond the ground water management zone since lead is a serious health threat to children.

Comment: The sulfate standard of two hundred fifty (250) milligrams per liter proposed at 327 IAC 2-11-6(b)(2) and 327 IAC 2-11-6(c)(2) have been taken from a non-binding, federal secondary standard and are inappropriate to be used in this rule as a binding, enforceable state standard. There are no studies that have found a significant health detriment associated with sulfate, and until studies conclude that such evidence exists, this rule should not inappropriately apply a federal secondary standard based merely on the aesthetic quality of taste. If IDEM insists on establishing a sulfate standard, it should be no less than twelve hundred (1200) milligrams per liter since that concentration was cited as being associated with a weak increase in reports of diarrhea. A standard less stringent will needlessly subject regulated entities in Indiana to the possibility of having to spend millions of dollars to address concentrations of sulfate in excess of the standard. (Beth, ICC, IEU, SIGECO)

Response: The sulfate number of two hundred fifty (250) milligrams per liter is included in the propose rule as an indicator level that a facility, practice, or activity shall not cause to be exceeded in a drinking water well, and, if exceeded, an agency shall determine if further action is necessary to comply with the narrative criteria established in the proposed rule. IDEM believes it is appropriate to include a sulfate indicator level.

Comment: The parameter levels established in 327 IAC 2-11-6(b) and 327 IAC 2-11-6(c) have been taken from secondary maximum contaminant levels but put on equal status with the constituents listed i 327 IAC 2-11-6(a). To make it clear that the parameters in subsections (b) and (c) are not meant to be regulated equally with the constituents in subsection (a), it is suggested that the proposed rule include a definition for Aindicator level@ that excludes it from being a Acriterion@ or Astandard@. Additionally, the language Ahealth protective goal levels@ used in 327 IAC 2-11-6(b) should be changed to Aindicator levels@ consistent with the wording of 327 IAC 2-11-6(c). Associated with these modifications, a conditional exclusion needs to be added to 327 IAC 2-11-5 stating that the narrative criteria do not apply to indicator levels unless a determination is made pursuant to 327 IAC 2-11-6(c); otherwise, the existing language in 327 IAC 2-11-5 makes the narrative criteria automatically applicable no matter what 327 IAC 2-11-6(c) states. (IEU)

Response: The language Ahealth protective goal levels@ used in 327 IAC 2-11-6(b) has been changed to Aindicator levels@ to be consistent with the wording of 327 IAC 2-11-6(c). The numbers established in section 6(b) and (c) of the proposed rule are indicator levels that a facility, practice, or activity shall not cause to be exceeded in a drinking water well, and, if exceeded, an agency shall determine if further action is necessary to comply with the narrative criteria established in the proposed rule. The indicator levels listed in 327 IAC 2-11-6(c) apply at and beyond the boundary of the ground water management zone as stated in 327 IAC 2-11-9(a). The exceedence of an indicator level at the management zone boundary means that an agency will evaluate the situation to determine if there needs to be any action beyond the evaluation. It does not mean that an agency will automatically require any specific action to be taken by a facility, activity, or practice, or that an agency will require that the exceedance level be reduced to below the concentration specified in 327 IAC 2-11-6(c). Instead, as stated in section 6(c), th

agency has discretion to determine if any further action is warranted for compliance with the narrative criteria established in 327 IAC 2-11-5 of the proposed rule. Factors that may be considered for this determination include the level of risk to human health or the environment.

Comment: It should be the responsibility of IDEM to develop a criterion for a contaminant without a drinking water class numeric criterion established in 327 IAC 2-11-6(a). Therefore, the language of 327 IAC 2-11-6(d) should retain the requirement that the criterion be based upon appropriate toxicological data but should delete the requirement for approval from the commissioner. A determination process fo criterion establishment is not stated in 327 IAC 2-11-6; therefore, any decision regarding criterion should be required to proceed through rulemaking. (IEU)

Response: 327 IAC 2-11-6(d) of the proposed rule has been revised as follows:AIf the commissioner determines that a site specific numeric criterion for a contaminant without a drinking water class numeric criterion established in subsection (a) is necessary to protect human health, any natural resource, or the environment, a risk analysis shall be used to establish a numeric criterion for that contaminant and must: (1) receive approval from the commissioner; and (2) be based upon appropriate toxicological data. A drinking water class numeric criterion may be added to the criterion established in subsection (a) if adopted according to IC 13-14-9@.

Comment: Qualifying statements should be added to subsections (c), (d), (e), and (f) of section 6 of the proposed rule to make it clear that the requirements of these subsections only apply to ground water at and beyond the ground water management zone. (NiS)

Response: Qualifying statements were not added to subsections (c), (d), (e), and (f) of section 6 of the proposed rule, but 327 IAC 2-11-9(a) of the proposed rule states the following in order to clarify where the standards must be met:AThe criteria established in this rule must be met at and beyond the boundary of the ground water management zone@.

Comment: The word Anot@ should be removed from 327 IAC 2-11-6(f) concerning numeric criteria that are the result of the facility, practice, or activity. (EPA)

Response: This subsection is intended to address contamination that is pre-existing at a location and has not been caused by the facility, practice, or activity presently located at the site.

Comment: It is inappropriate that 327 IAC 2-11-6(g) would allow the use of alternative risk based criterion for remediation in drinking water class ground water. The use of alternative risk based criterio is equivalent to allowing more pollution and should not be tolerated in drinking water class ground water. (HEC, SDC)

Response: To provide flexibility to meet various remediation objectives, IDEM believes it is appropriat to allow the use of site specific, risk based clean up numbers within the ground water management zone. The standards must still be met at and beyond the ground water management zone; thus, the numeric criteria for drinking water class ground water established in 327 IAC 2-11-6 of the proposed rule must be met at and beyond the ground water management zone.

Comment: 327 IAC 2-11-6(g) indicates the commissioner could allow a risk assessment to set standard

within the ground water management zone; yet, 327 IAC 2-11-9 states that the criteria only apply at or beyond the ground water management zone. It is recommended that 327 IAC 2-11-6(g) be deleted. (NiS)

Response: To provide flexibility to meet various remediation objectives, IDEM believes it is appropriat to allow the use of site specific, risk based clean up numbers within the ground water management zone. The standards must still be met at and beyond the ground water management zone.

Comment: The Indiana Department of Natural Resources (IDNR) is the appropriate agency to determine the impact of pollution caused by surface coal mining operations and will have opportunity t assess impacts during coal mining permitting processes. Impact minimization requirements of the Indiana Surface Mining Control and Reclamation Act (ISMCRA) provide sufficient measures for protection of ground water while allowing a necessary industry to operate. The ground water quality standards rule should not require ground water affected by mine spoil to be classified as impaired whicl would require a demonstration by the mining operation to show impairment. Though coal mining is a human activity, its impacts to ground water are attributable to naturally occurring constituents. These impacts are currently regulated by IDNR through the ISMCRA. Any further demonstration beyond what is required under ISMCRA is redundant. The rule should allow ground water affected by coal mine spoil to be automatically classified as naturally limited. (Beth, ICC, IEU, SIGECO)

Response: IDEM agrees and maintains that ground water affected by mine spoil should be classified as naturally limited.

Comment: 327 IAC 2-11-7(c)(2) establishes the means to set a criterion for a contaminant in naturally limited class ground water. The proposed rule needs to specify that this criterion shall not be set at a concentration that poses a threat to human health, any natural resource, or the environment. (EPA)

Response: For ground water naturally limited due to high concentrations of total dissolved solids or low yield, a contaminant with a drinking water class numeric criterion established in 327 IAC 2-11-6(a) of the proposed rule shall have a numeric criterion of ten (10) times the drinking water class numeric criterion except in cases where the commissioner allows an appropriate site specific, risk based numeric criterion. IDEM believes the numeric criterion of ten (10) times the drinking water class numeric criterion is protective of human health as the most likely exposure to this ground water would be derma contact in a construction excavation situation.

Comment: 327 IAC 2-11-7(c)(2) provides alternate standards for contaminants with a drinking water standard listed in section 6(a) of the rule to be determined by a risk assessment or a default of ten (10) times the standard in section 6(a), but there is no direction provided in the proposed rule as to which of the two (2) methods are to be used nor is there direction as to who makes the choice of alternate methods. This could mean the person requesting the alternate standard could select whichever method resulted in the more lenient standard. It is recommended that the rule include language to state that the more stringent standard resulting from 327 IAC 2-11-7(c)(2)(A) or 327 IAC 2-11-7(c)(2)(B) be used as the standard. (RLM)

Response: The proposed rule was revised and now establishes that ground water naturally limited due to high concentrations of total dissolved solids or low yield shall have a numeric criterion of ten (10)

times the drinking water class numeric criterion except in cases where the commissioner allows an appropriate site specific, risk based numeric criterion.

Comment: A criterion of ten (10) times the maximum contaminant level, as allowed by 327 IAC 2-11-7(c)(2)(B), for the naturally limited class ground water is not acceptable for areas that have low yields, little current use, or the vast areas that fall within the cumulative hydrologic impact of a mine. It should be recognized that there are many water supply wells that exist within these areas. (HEC, SDC)

Response: Ground water with high total dissolved solids concentrations or low yield that is being used as drinking water as evidenced by the existence of drinking water wells cannot be classified as naturally limited. If that ground water is not being used as drinking water, it has a numeric criterion of ten (10) times the drinking water class numeric criterion except in cases where the commissioner allows an appropriate site specific, risk based numeric criterion. IDEM believes the numeric criterion of ten (10) times the drinking water class numeric criterion is protective of human health as the most likely exposure to this ground water would be dermal contact in a construction excavation situation. For naturally limited ground water within the zone of influence of a coal mine, a contaminant attributable to activities associated with coal mining shall meet the greater of the existing contaminant concentration or the numeric criterion established for drinking water class ground water.

Comment: The word Anot@ should be removed from 327 IAC 2-11-7(c)(5) concerning numeric criteria that are the result of the facility, practice, or activity. (EPA)

Response: This subsection is intended to address contamination that is pre-existing at a location and has not been caused by the facility, practice, or activity presently located at the site.

Comment: The rule language of section 8, which establishes numeric criteria for impaired drinking water class ground water at the existing concentration of the contaminant present in ground water (a concentration that exceeds the drinking water class numeric criterion in section 6(a)) for unregulated facilities, practices, activities, and abandoned sites, may hamper ground water remediation efforts under CERCLA and RCRA at those sites. (EPA)

Response: IDEM understands that CERCLA, RCRA, and other clean up programs may have remediation objectives in addition to meeting the ground water quality standards. IDEM believes that the proposed rule provides enough flexibility to those programs that it will not hamper their remediation efforts and will allow them to accomplish their remediation objectives.

Comment: According to section 8 of the proposed rule, if the maximum contaminant is already exceeded in an area of impaired drinking water class ground water then the standard becomes the background level. Similarly, background should be the standard for all drinking water class and impaired drinking water class ground water. (HEC, SDC)

Response: The impaired drinking water class was developed to recognize that ground water exists containing concentrations of contaminants that cannot feasiblely be cleaned up. Therefore, to allow flexibility and compliance with the standards, the numeric criteria for that impaired drinking water class ground water may be the existing contaminant concentration.

Comment: Concerning the selection of alternate standards in impaired class ground water, the proposed rule needs to specify that the commissioner shall choose the appropriate numeric criteria using the methods of either 327 IAC 2-11-8(2)(A) or 327 IAC 2-11-8(2)(B) and 327 IAC 2-11-8(3)(A) or 327 IAC 2-11-8(3)(B). Guidelines should be developed to assure that the commissioner will make a determination that is not arbitrary and capricious. (RLM)

Response: The proposed rule language establishing the numeric criteria for impaired drinking water class ground water has been revised to require that the existing contaminant concentration of a contaminant that is in excess of the numeric criterion established for drinking water class ground water shall be the maximum allowable contaminant concentration except in cases where the commissioner allows an appropriate site specific, risk based numeric criterion.

Comment: 327 IAC 2-11-8(3)(A)(i) allows the existing concentration of a contaminant to be the standard if the activity causing the contamination was previously unregulated. This provision creates a giant loophole that legalizes future pollution. The rule needs to follow the statute and simply and directly place a ban on discharges to ground water. (HEC, SDC)

Response: IDEM does not believe that future pollution is legalized by allowing the existing concentration of a contaminant to be the numeric criterion where the activity causing the contamination was previously unregulated. Regardless of the class of ground water, it is unlawful for any person, pursuant to IC 13-18-4-5, to throw, run, drain, or otherwise dispose into any of the streams or waters of Indiana; or cause, permit, or suffer to be thrown, run, drained, allowed to seep, or otherwise disposed into any waters; any organic or inorganic matter that causes or contributes to a polluted condition of any waters. Additionally, the commissioner may deny a request to classify ground water as impaired drinking water class ground water if the exceedance of the numeric criterion established for drinking water class ground water was caused by an unlawful action of the person seeking the classification.

Comment: A criterion established according to risk analysis in impaired drinking water class ground water, as allowed by 327 IAC 2-11-8(2)(B) and 327 IAC 2-11-8(3)(B), is inappropriate unless the contamination occurred before the ground water protection act was in effect or if no responsible party can be identified. (HEC, SDC)

Response: The proposed rule language establishing the numeric criteria for impaired drinking water class ground water has been revised to require that the existing contaminant concentration of a contaminant that is in excess of the numeric criterion established for drinking water class ground water shall be the maximum allowable contaminant concentration except in cases where the commissioner allows an appropriate site specific, risk based numeric criterion.

Comment: A ground water management zone could be an effective tool for protection of human health and the environment and an excellent way to manage impacted areas; however, the proposed rule appears to allow more than one (1) agency to establish a ground water management zone for the same facility. It is recommended that the rule specify that only one (1) agency be given the jurisdiction for establishing a ground water management zone for a site, and that an agency should not be able to establish a ground water management zone more restrictive than the default ground water management zone provided in the rule. The rule, also, needs to specify the process for establishing or obtaining approval for establishment of a ground water management zone. (INDI)

Response: A ground water management zone is established for an existing or potential source of contamination. Therefore, a facility, practice, or activity with multiple sources may have multiple ground water management zones established by the agencies that regulate them. Agencies may work together to establish consistent ground water management zones. Agencies may also work together to combine ground water management zones. IDEM believes it is appropriate to manage the sources of contamination. IDEM also believes it is appropriate that the determination of the location and duration of a ground water management zone for a source should be established by the agency with regulatory authority over the facility, practice, or activity responsible for the source. IDEM understands that a ground water management zone more stringent than a default management zone may be necessary in some cases to protect the ground water resource. IDEM also understands that a ground water management zone less stringent than a default management zone may be as protective as the default zone in some cases.

Comment: Section 9 and the entire concept of a ground water management zone should be removed from the ground water quality standards rule as it is contradictory to the statutory obligation to ban discharges to potable water. Such a zone is basically a mixing zone where pollutants can be diluted in soil or ground water providing no preventative health protection. The ground water management zone concept ignores the fact that pollutants often travel straight down before they migrate laterally to the property boundaries or monitoring wells. The proposed rule will allow every facility to assume at least a three hundred (300) foot default management zone and the agencies to whom the ground water quality standards rule applies may specify larger ground water management zones. (HEC, SDC)

Response: IDEM believes that the ground water management zone is a tool that provides the necessary flexibility to effectively manage the ground water resource.

Comment: The proposed rule lists factors to be considered for establishing a ground water management zone at 327 IAC 2-11-9(c) and (d) and for determining ground water classifications at 327 IAC 2-11-4(d) and (e). These factors considered together should be sufficient to make a decision regarding a ground water management zone demonstration; however, the proposed rule should give more guidance as to the process of making a ground water management zone demonstration. (BPA)

Response: When agencies apply the ground water standards, IDEM believes it is appropriate for the agencies to provide guidance on the process for establishing a program specific or site specific ground water management zone.

Comment: 327 IAC 2-11-9 needs to include a specific default ground water management zone for coal mines similar to what was provided in earlier drafts of the ground water quality standards rule. IDNR has stated at the March, 2000 Ground Water Task Force meeting that it will implement the provisions o the ground water quality standards rule immediately upon its becoming effective without promulgating their own agency rules regarding implementation. This position taken by IDNR seems contrary to Senate Enrolled Act 83, and it emphasizes the importance of a specific default ground water management zone for coal mines. Without such a specific zone, the proposed rule language will set a default ground water management zone of one hundred (100) feet from the edge of an area or site of overburden extraction, coal mine processing water disposal, or underground or auger coal mining because a typical coal mine permit or property boundary is one hundred (100) feet from these sites. A default zone established according to such measures would be more restrictive on coal mining than the

ground water management zone available to other entities. (Beth, ICC, SIGECO)

Response: IDEM believes it is appropriate for IDNR to establish the ground water management zone for coal mines. It should additionally be noted that when applying the default ground water managemen zone an entity is restricted to its property line.

Comment: The three hundred (300) foot perimeter of a default ground water management zone from a source area is unclear in the proposed rule. IDEM=s response (23 IR 862) to this comment in its Summary/Response to Comments Received at the First Public Hearing does not provide meaningful guidance especially for a large, complex industrial facility where a proposed default ground water management zone is likely to be too restrictive. It is understood from the many public meetings held for the ground water quality standards rule that IDEM does not intend to apply the default ground water management zone in a routine or mechanical manner; however. this intent should be stated more clearly as part of the record of this rulemaking in the comments made by IDEM to the Water Pollution Control Board or as part of the formal responses by IDEM to written comments. It is suggested that IDEM clarify the intent concerning a default ground water management zone with the following statement: AIDEM recognizes that the default ground water management zone may be overly restrictive in some situations and not restrictive enough in others. In general, a larger facility is a more complex facility, an where more data is available about a facility, it is more likely that a default ground water management zone larger than allowed in the proposed rule would be appropriate. (Beth, ICC)

Response: IDEM does not intend for agencies to apply the default ground water management zone in a routine or mechanical manner. IDEM believes it is appropriate that the determination of the location an duration of a ground water management zone for a source should be established by the agency with regulatory authority over the facility, practice, or activity responsible for the source. A facility, practice, or activity with multiple sources may have multiple ground water management zones established by the agencies that regulate them. Agencies may work together to establish consistent ground water management zones. Agencies may also work together to combine ground water management zones. IDEM does recognize that the default ground water management zone may be overly restrictive in some situations and not restrictive enough in others; however, the decision to establish a ground water management zone different from the default must be made by the agency with regulatory authority over the facility, practice, or activity responsible for the source.

Comment: The first sentence of 327 IAC 2-11-9(e) should end withAunder subsection (b), (c), or (d)@.

Response: IDEM has made corrections consistent with this comment.

Comment: The proposed rule at 327 IAC 2-11-9(e)(1) appears to be less protective of ground water where a contamination plume affects a neighboring property that has a drinking water well because the boundary of the ground water management zone is set at the drinking water well. The ground water management zone boundary is set further upgradient, at the property boundary under section 9(e)(2), where there are no drinking water wells on the neighboring property. Consideration should be given to using upgradient monitoring wells as the boundary of the ground water management zone rather than drinking water wells to provide an early warning of any ground water contamination that could potentially exceed numeric or narrative criteria at drinking water wells and, thereby, allow for implementation of timely remedial actions. (EPA)

Response: A ground water management zone is established for an existing or potential source of contamination. Therefore, it is more protective to require that the standards be met at a drinking water well within three hundred (300) feet from the source or at the property line when the property line is closer than three hundred (300) feet than only requiring that the standards be met three hundred (300) feet from the source or at the property line when the property line is closer than three hundred (300) feet.

Comment: 327 IAC 2-11-9(f) should be expanded to allow the combination of default ground water management zones. (NiS)

Response: The proposed rule says that if overlapping ground water management zone boundaries are present at a facility, practice, activity, or ground water contamination assessment or remediation then th agency or agencies with jurisdiction may combine them. Therefore, agencies may choose to combine default ground water management zones, but facilities, practices, and activities may not without authorization from the agency or agencies with jurisdiction over them.

Comment: Contrary to the position of the Indiana Department of Environmental Management that a fiscal analysis of the ground water quality standards rule is not required, it is recommended that a fiscal analysis be conducted as required by IC 4-22-2-28 if the rule is considered to be self-implementing and to mitigate the potential for legal challenges. (Beth, ICC, ISEG, SIGECO)

Response: The authorizing statute for the standards, IC 13-18-17-5, requires agencies to adopt rules to apply the standards; therefore, IDEM believes it is appropriate for agencies to conduct a fiscal analysis during each individual rulemaking completed to apply the standards. IDEM does not believe that a fiscal analysis is necessary for enforcement of this rule as a standard under IC 13-30-2.

Comment: In accordance with Senate Bill 1919 that altered the ground water protection act to say the ground water quality standards rule must allow risk based clean up procedures as appropriate, the proposed rule needs to include the following requirements to specify when it is appropriate to use a risk based clean up: (1) any future contamination of drinking water class ground water shall result in a clean up to background levels; (2) impaired drinking water class ground water must be treated as a future drinking water supply with risk based clean up allowed only for historic contamination that was in place before the ground water protection act went into effect; and (3) a risk based clean up shall be appropriate for naturally limited class ground water that is characterized as having greater than ten thousand (10,000) parts per million total dissolved solids. (HEC, SDC)

Response: IDEM believes that the determination of whether it is appropriate to use a risk based clean up should be made by the remediation program that has jurisdiction over the clean up.